

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000450**Date Inspected:** 07-Sep-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Xinahai Gu & Ye Yongjun			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A

Bridge No: 34-0006**Component:** 77, 89 and 144 meter mock-up**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

77 Mockup-Skin Plate B (Sub Assembly-MA3):

QA Inspector Brannon randomly observed ZPMC qualified welders Mr. Liu Xie ID #066236 and Mr. Zhang Xiangrong ID# 066763 groove welding fill passes at weld joints 1 & 2 respectively for skin plate B joining longitudinal stiffener plate mp16 to MA3. Mr. Xie and Mr. Xiangrong was observed welding in the 2G (horizontal) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 machine. Mr. Xie and Mr. Xiangrong appeared to be using proper inter-pass cleaning methods. QA Inspector Brannon observed the ZPMC QC Inspector Xinahai Gu verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 110°C and measured the welding parameters to be 310/320 amps, 30/30 volts, a travel speed of 315/343 mm/min respectively and a shielding gas flow of 22/22L/min. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2232-TC-P5-F-1, Revision 0.

89 Mockup-Diaphragm (MUSAB-SA13):

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Wang Zhonghua ID #053753 tack welding at weld joint 1 for diaphragm plate p1235 to p213. Mr. Zhonghua was observed welding in the 1G (flat) position utilizing shield metal arc welding (SMAW) process with a 4.8mm diameter electrode, filler metal brand Lincoln,

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class Excalibur 9018m manual. Mr. Zhonghua appeared to be using proper inter-pass cleaning methods. QA Inspector Brannon observed the ZPMC QC Inspector Ye Yongjun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector Brannon also verified the preheat temperature to be a minimum of 160°C and measured the welding parameters to be 245 amps. Welding parameters measured by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-3211-B-U3b, Revision 0.

NDT (VT/MT): QA Inspector, Brannon observed ZPMC NDT technician Mr. Zhou Dongyun, at 77 Mockup-Skin Plate D sub assembly-MA5 weld joint #1 performing magnetic particle testing (MT) on the root pass weld for weld joint #1, one hundred percent of the root weld was inspected by the NDT technician. QA Inspector Brannon performed visual inspection (VT) and magnetic particle testing (MT) on the root pass weld for weld joint #1. See Caltrans Magnetic Particle Test Report, TL-6028 dated September 7, 2007 for additional information.

NDT (VT/MT): QA Inspector, Brannon observed ZPMC NDT technician Mr. Zhou Dongyun, at 77 Mockup-Skin Plate E sub assembly-MA1 weld joint #5 performing magnetic particle testing (MT) on the root pass weld for weld joint #1, one hundred percent of the root weld was inspected by the NDT technician. QA Inspector Brannon performed visual inspection (VT) and magnetic particle testing (MT) on the root pass weld for weld joint #5. See Caltrans Magnetic Particle Test Report, TL-6028 dated September 7, 2007 for additional information.

The following digital photograph illustrates ZPMC pre-heating prior to tack welding using a shield metal arc welding (SMAW) process.



Summary of Conversations:

No relevant conversations on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Brannon, Sherri

Quality Assurance Inspector

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Reviewed By: Cuellar,Robert

QA Reviewer